Outcome of the Psychological Intervention Program

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Outcome of the Psychological Intervention Program: Internet Use for Youth

Guek Nee Ke[1] · **Siew Fan Wong**[2]

Abstract The prevalence of problematic Internet use (PIU) is reportedly higher in South East Asian adolescent populations. The exacerbation of problematic adolescent behaviors has been found to associate significantly with PIU and is expected to worsen with age. Cognitive Behavioural Therapy (CBT)-integrated therapy has been shown to significantly reduce in the presence of psychological symptoms such as depression and social anxiety. The Psychological Intervention Program-Internet Use for Youth (PIP-IU-Y) is a CBT-based program designed for adolescents and comprises of a series of interpersonal skills to improve their face-to-face interaction. It focuses on taking preventative measures against Internet addiction before it develops by addressing the participant's PIU as a negative coping style and incorporating positive psychological techniques. A total of 157 participants between the ages of 13 and 18 completed the program which consisted of eight weekly, 90 min sessions in a group format. Treatment outcomes were measured using mean change at the end of the program and 1 month post-treatment. The majority of the participants showed improvement after the eight weekly sessions of PIP-IU-Y and continued symptom maintenance at the 1 month follow-up. An overwhelming majority of participants were able to manage PIU symptoms after the intervention program, reinforcing the efficacy of the PIP-IU-Y. Not only did it addresses the PIU behaviour but also helped in reducing social anxiety and increasing social interaction. Further research could investigate treatment differences among the various subtypes of PIU (e.g., online gaming and pornography) in order to see if treatment differences exist.

✉ Guek Nee Ke
g.n.ke@hw.ac.uk

[1] School of Social Sciences, Heriot-Watt University Malaysia, No. 1, Jalan Venna P5/2, Precinct 5, 62200 Putrajaya, Wilayah Persekutuan Putrajaya, Malaysia

[2] Department of Information Systems, Sunway University Malaysia, Subang Jaya, Malaysia

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Introduction

The recent decade has witnessed the increased focus on the emerging problem of Internet addiction (Ke et al. 2013; Griffiths 2000; Young 2010). One's inability to control their Internet use has negative consequences, from feelings of distress to functional impairment (Young and Rogers 1998). Interestingly, problematic Internet use (PIU) shares certain characteristics with substance-related addictions, particularly in the areas of preoccupation, tolerance, and withdrawal (Griffiths 2005). However, unlike the medical implications of substance abuse, the physical impacts of PIU are comparatively minimal yet prominent in the long-run.

Excessive use of the Internet often results in disruptions of the circadian rhythm, leading to instances of insomnia and shifts in sleep phases (Chen and Gau 2016; Li et al. 2015). Prolonged instances of sleep deprivation impair cognitive functioning and psychological well-being in both adolescents and adults (Do et al. 2013; Eickhoff et al. 2015; Tang et al. 2014). Lifestyle patterns and dietary behaviours are also susceptible to changes due to Internet addiction, as are other physiological symptoms such as a lack of physical energy and weakened immunity (Cao et al. 2011; Kim et al. 2010).

The prevalence of PIU has been well-documented in the adolescent populations around the world, but incidences are reportedly higher in South East Asian countries. An epidemiological study revealed that Filipino and Japanese adolescents had the highest incidences of Internet addiction at 51 and 48%, respectively (Mak et al. 2014). In contrast, only 4% of European adolescents were classified as pathological Internet users (Durkee et al. 2012).

Problematic adolescent behaviours, particularly the exacerbation of depression, hostility, and social anxiety, have been found to associate significantly with PIU (Ko et al. 2014; Liu et al. 2011; Ostovar et al. 2016). If these symptoms are not dealt with accordingly, they are expected to worsen with age and interfere with one's quality of life and interpersonal relations with others (Cheng and Li 2014; Odaci and Kalkan 2010).

Treatment

Individuals with Internet addiction have seen improvement in their behaviour when they undergo cognitive behavioural therapy (CBT) approaches such as cognitive restructuring and exposure therapy (Davis 2001). Research suggests that the success of these methods can be attributed to the similarities between problematic Internet use (PIU) and impulse control disorder, with users exhibiting better control of Internet use when their time management skills are improved (Du et al. 2010; Van

Rooij et al. 2012; Young 2007). Behaviours such as compulsivity, invasive thoughts of the Internet and cheating in order to access the Internet have also reportedly declined with CBT techniques (Li and Wang 2013; Van Rooij et al. 2012; Young 2007).

The success of CBT methods on PIU has led to the development of the Psychological Intervention Programme-Internet Use for Youth (PIP-IU-Y). It was created with adolescents in mind and focuses on the improvement of physical social interaction through the development of interpersonal skills. Unlike prior research, the PIP-IU-Y aims to take preventative measures against Internet addiction by identifying PIU as a negative coping style and incorporating positive psychological techniques to address it, such as encouraging participants to practice positive thinking by acknowledging their own achievements. By educating participants on various coping skills related to social anxiety and stress, it is expected that they would be able to exhibit assertive behaviour and confident thoughts when dealing with physical social interaction.

The PIP-IU-Y consists of 8 weekly, 90 min sessions that is conducted by researcher-certified school counsellors in a group format. The eight sessions can be categorized into three phases: formulation, restructuring of thought and behaviour, and modification of thought and behaviour.

The first phase consists of three sessions and aims to set the foundation for the intervention programme through increasing the participant's sense of self-awareness. They are encouraged to acknowledge their PIU, as well as identify their feelings with and without the Internet. It is also pertinent that they recognize areas of potential improvement in social situations at this stage.

The Thought–Feeling–Action Chain utilized in this phase (adapted from Shannon 2012) will enable participants to identify their emotion and corresponding physical reactions when confronted with specific social interaction situations. For instance, they may reflect on being unable to access the Internet for a day. They will be asked to recall what they were thinking at that very moment, the subsequent feelings that arose from those thoughts, and the actions that they carried out at the end. This exercise allows participants to increase their self-awareness regarding their virtual and real-life triggers of individual anxiety and stress in their social interaction patterns and recognize areas of potential improvement.

The second phase has two sessions that focuses on restructuring the thoughts and behaviour of the participants by challenging pre-existing thinking distortions by utilizing cognitive and behavioural methods, such as keeping a Social Interaction Habit Diary and the Exposure Ladder.

The Exposure Ladder would gradually expose participants to social situations that induce severe feelings of anxiety and stress. With the counsellor's guidance, they will be encouraged to re-evaluate the rationality and validity of these reactions, as well as engage in positive thinking in order to reduce their level of social anxiety. For instance, the participants may reflect on a particular day when they were unable to access the Internet. Based on the Exposure Ladder worksheet, participants would list situations which they would wish to overcome based on their level of discomfort on the rungs of the ladder (e.g. 'do homework without Internet access' on the lowest rung to 'performing daily activities without Internet access' on the highest rung).

The objective of this exercise is to facilitate the process of extinction, whereby there is a reduction in the association between the participant's negative feelings and a particular situation they encounter (Abramowitz 2013). The encouragement of positive thinking reinforces the participant's sense of achievement, reducing the association between anxiety and stress with real-life social interaction.

By doing so, the participant's social confidence is likely to improve as they become desensitised against any negative feelings associated with physical social interaction. The final phase comprises of three sessions, and concentrates on thought modification and behaviour.

The integration of cognitive and behavioural activities as learned in the previous phases is exercised in the Assertive and Confident Thought worksheet (adapted from Shannon 2012), which has eight steps:

1. Exposure (What feared situation are you facing?);
2. Anxious Prediction (What are you afraid will happen?);
3. Ideal Action (How do you think you should act and appear in this situation?);
4. Preventive Behaviour (What would you normally do to prevent your anxious prediction from happening?);
5. Thinking errors (What thinking errors does your anxious prediction rely on?);
6. Coping thought (What can you remind yourself of when you are feeling the most anxious?);
7. Realistic goal (What can you accomplish even though you feel anxious?); and
8. Values (What motivates you to move in this direction?).

Participants are asked to reflect back on a particular situation that exposed them to distress, such as having no access to Internet for a day. They will then identify the anxious prediction that is associated with that exposure, such as peers being angry and socially ostracizing them. Subsequently, the participants would need to identify how they think they should act and appear in this situation, such as continuing on with their daily activities without access to the Internet and believe that their friends would understand. Next, the participants would need to establish what they would normally do to prevent their anxious prediction from happening, such as finding ways to access the Internet. Following which, the participants would be encouraged to pinpoint the thinking errors that are associated with such thoughts, and what coping thought they can utilize in order to calm themselves. They will then have to challenge themselves in setting a realistic goal that they can accomplish even though they feel anxious, and the associated life values that motivates them to move in that direction. This activity is carried out in order to increase the participant's awareness to their cognitive distortions. By structurally analysing these situations that elicit negative emotions, participants would be able to challenge the faulty thoughts independently, enabling them to face future situations on their own. This cognitive exercise also allows participants to build their assertiveness, which has been negatively impacted by PIU (Gu et al. 2016), ensuring that their interpersonal interactions would not be harmed further (Takano et al. 2011).

Finally, the troubleshooting of any potential issues is carried out in order to identify any potential obstacles and solutions that could overcome them.

Throughout these three phases, participants will be asked to answer the Social Anxiety and Stress Symptoms Checklist by Davis et al. (2008) in order to objectively measure the success of the intervention program. This is expected to provide them with the motivation to maintain progress and celebrate every achievement.

Methods

Design

This study adopted a pretest–posttest, one-group experimental design. The pre-test scores will measure the baseline condition of the group prior to the intervention, and any effect of the intervention program would be measured by the post-test scores. This design is well-documented in clinical and counselling literature in evaluating the effects of behavioural interventions and change over time (Borckardt et al. 2008; Morgan and Morgan 2009). It is preferable over the randomized controlled trial group designs, especially when researching the effects of novel interventions on individuals. Moreover, it is suggested that since the design is similar to that of clinical practice, it allows for a greater transfer between research findings and practice application (Borckardt et al. 2008).

Participants

A multi-site request for voluntary participation was initiated in various government secondary schools. A total of 22 groups with an average of seven secondary school students were identified and formed by school counsellors based on their problematic Internet use (PIU) scores and motivation to change their behaviour. There was a total of 157 participants who completed the programme.

Measures

The three questionnaires employed were the Problematic Internet Use Questionnaire (PIUQ; Koronckzai et al. 2011), the Depression, Anxiety, Stress Scales (DASS; Lovibond and Lovibond 1995), and the Social Interaction Anxiety Scale (SIAS; Mattick and Clarke 1998). All measurements were translated into Bahasa Malaysia to cater to government secondary school students who are more likely to be proficient in Bahasa Malaysia.

(a) *Problematic Internet Use Questionnaire (PIUQ)* The PIUQ is a validated instrument that measures three dimensions of PIU, which are obsession, neglect, and control disorder (Koronckzai et al. 2011). All items are rated on a 5-point Likert scale from 1 (Never) to 5 (Always). Obsession dimension measures psychological fixation with the Internet, and the symptoms of worry, anxiety, and depression due to inability to access the Internet. Neglect examines the negligence of typical daily activities such as working and eating

while control disorder examines one's incompetence in decreasing the amount of time spent on the Internet. Overall, participants who scored above 41 were rated as having PIU. PIUQ shows high reliability through all three time-points with Cronbach's alpha ranging from 0.794 to 0.889.

(b) *Depression Anxiety Stress Scale (DASS)* The full 42-item scale measures one's current emotional symptoms of depression, anxiety, and stress (Lovibond and Lovibond 1995). The items are rated on a 4-point Likert scale from 0 (Did not apply to me at all) to 3 (Applied to me very much, or most of the time). Participants were categorized into one of the five groups: normal, mild, moderate, severe, and extremely severe for each subscale. Depression subscale scores 0–9 (Normal), 10–13 (Mild), 14–20 (Moderate), 21–27 (Severe), and 28+ (Extremely severe). Anxiety subscale categorizes with 0–7 (Normal), 8–9 (Mild), 10–14 (Moderate), 15–19 (Severe), and 20+ (Extremely severe). Similarly, stress subscale groups participant by 0–14 (Normal), 15–18 (Mild), 19–25 (Moderate), 26–33 (Severe), and 34+ (Extremely severe). Overall, higher score implies severity of one's mental health. The reliability ranged from 0.924 to 0.954 for overall, 0.904–0.924 for depression, 0.758–0.863 for anxiety, and 0.831–0.901 for stress.

(c) *Social Interaction Anxiety Scale (SIAS)* The SIAS is a 20-item instrument that measures the distress level when interacting with other people (Mattick and Clarke 1998). The instrument is helpful in assessing presence of social phobia or other anxiety related disorders, as well as helpful in tracking the symptoms over time. The reliability was found to be 0.788, 0.833, and 0.929 for all their time-points respectively.

Procedure

The study was conducted in three stages: T0 (Pre-intervention), T1 (Post-intervention), and T2 (1 month follow-up).

Prior to the pre-intervention phase, the lead school counsellors in charge of conducting the intervention program were contacted by the researchers. They were briefed on the objectives of the program and familiarized with the weekly activities in order to ensure that they were comfortable with the program's structure.

In the pre-intervention phase, the school counsellors were responsible for the selection of participants from the student population of the schools they were assigned to. Students who had volunteered to undergo the intervention program were first administered the three self-reported questionnaires (i.e. PIUQ, SIAS, DASS). This was to ensure that they not only fulfilled the selection criteria of having a higher score in the PIUQ, but baseline data can be obtained.

Once the participants were identified, PIP-IU-Y was then administered. The 8 week programme was conducted in a group format, and involved 90 min weekly sessions. Throughout this intervention, the participants and respective counsellors met on a regular basis in order to share their progress and clarify certain issues that may have arose. The three self-reported questionnaires were once again

administered immediately after the conclusion of the intervention program in order to measure any effects of the intervention program, providing the data for the post-intervention stage.

The final stage was conducted approximately 1 month after the programme was completed. Participants were one again measured using the same self-reported questionnaires in order to obtain the follow-up symptom maintenance effect.

Statistical Analysis

Intervention outcomes were determined using mean change in PIUQ, DASS, and SIAS after the completion of the PIP-IU-Y, and 1 month later during the follow-up assessment. Paired samples *t* test was employed to determine whether there were significant changes in symptoms during the three phases of the PIP-IU-Y.

Ethics

The Malaysian Ministry of Education approved the study. All subjects were informed about the study and all provided informed consent. Parental consent was sought for those younger than 18 years of age.

Results

A total of 157 participants were evaluated. Demographically, 54% were females, and the remaining 46% were males. They were aged between 13 and 18 years ($M = 14$) and of various ethnicities.

Table 1 summarizes the results of the PIUQ, DASS, and SIAS at the onset of intervention. The results indicate that 92% of the participants exhibited PIU. Analysis of the DASS subscales revealed that 31% of participants were on the moderate range for depression, 30% scored along the very severe range for anxiety, and 62% were within the normal range for stress. Lastly, 40% of participants were on the normal scale for SIAS.

Table 2 examines the means and standard deviations of the PIUQ, DASS subscales, and SIAS at across the three phases of the programme.

By the end of the intervention, the mean scores for the participant's level of PIU were lower than the baseline ($M = 45.38$, $SD = 9.90$), and at the 1 month follow-up ($M = 37.22$, $SD = 9.65$). There were significant decrements in the mean scores for the DASS subscales of depression ($M = 13.25$ $SD = 7.07$), anxiety ($M = 11.83$, $SD = 7.01$), and stress ($M = 10.62$, $SD = 6.69$) at the end of the programme. At the 1 month follow-up, there was a further reduction observed for the depression ($M = 10.53$ $SD = 6.17$), anxiety ($M = 8.84$, $SD = 5.33$), and stress ($M = 7.59$, $SD = 5.43$) subscales. A significant reduction in mean scores was also observed for the SIAS ($M = 29.28$, $SD = 11.18$) at the end of the intervention programme, and a further reduction occurred at the 1 month follow up ($M = 23.83$, $SD = 11.28$).

Table 1 PIUQ, DASS, and SIAS responses at onset of intervention

	Males, % (No. of participant)	Females, % (No. of participant)	Total, % (No. of participant)
PIUQ			
Normal	4% (3)	11% (9)	8% (12)
Problematic	96% (69)	89% (76)	92% (145)
DASS—depression			
Normal	11% (8)	12% (10)	12% (18)
Mild	29% (21)	14% (12)	21% (33)
Moderate	36% (26)	27% (23)	31% (49)
Severe	13% (9)	26% (22)	20% (31)
Very severe	11% (8)	21% (18)	17% (26)
DASS—anxiety			
Normal	24% (14)	6% (5)	14% (22)
Mild	11% (8)	8% (7)	10% (15)
Moderate	24% (17)	31% (26)	27% (43)
Severe	18% (13)	20% (17)	19% (30)
Very severe	24% (17)	35% (30)	30% (47)
DASS—stress			
Normal	68% (49)	58% (49)	62% (98)
Mild	14% (10)	13% (11)	13% (21)
Moderate	10% (7)	21% (18)	16% (25)
Severe	7% (5)	6% (5)	6% (10)
Very severe	1% (1)	2% (2)	2% (3)
SIAS			
Normal	44% (32)	35% (30)	40% (62)
Phobia	35% (25)	32% (27)	33% (52)
Anxiety	21% (15)	33% (28)	27% (43)

Further analysis was conducted using the paired sample t test and effect size in order to determine if these changes were significant. Effect size can be defined as a quantitative reflection of a phenomenon's magnitude on the population of interest (Kelley and Preacher 2012). Cohen (1988) suggested that effect sizes can be categorized into small (d = 0.2), medium (d = 0.5), and large (d = 0.8). However, these naming conventions are merely suggestions, rather than an absolute indicator of effect size (Cohen 1988; Brace et al. 2016).

Comparing the pre-intervention and post-intervention scores ($T_0 - T_1$), a significant decrement can be observed in the participants PIUQ scores [t (156) = 13.53, $p < 0.01$, $d = 1.03$], suggesting that their inclination towards PIU behaviour has decreased. The effect size for this analysis ($d = 1.03$) exceeds Cohen's (1988) convention for a large effect (0.80). With this effect size, approximately 85% of the participant's post-intervention scores will be below the mean of the pre-intervention scores, 43.5% of the two sets of scores will overlap, and there is a 76% chance that a participant's post-intervention score will be lower

Table 2 Comparisons of means (SD) of PIUQ, DASS, and SIAS at the three measurement points

	To	T1	T2	*t* test			Cohen's d		
	(Pre intervention)	(Post intervention)	(Follow-up)	T0 − T1	T1 − T2	T0 − T2	T0 − T1	T1 − T2	T0 − T2
PIUQ	55.81 (10.37)	45.38 (9.90)	37.22 (9.65)	13.53**	14.24**	20.28**	1.029	0.835	1.856
DASS—D	18.68 (9.53)	13.25 (7.07)	10.53 (6.17)	8.20**	6.93**	11.04**	0.647	0.410	1.009
DASS—A	15.95 (9.27)	11.83 (7.01)	8.84 (5.33)	6.92**	7.60**	10.62**	0.501	0.480	0.940
DASS—S	13.75 (9.02)	10.62 (6.69)	7.59 (5.43)	5.78**	8.62**	9.56**	0.394	0.497	0.827
SIAS	35.99 (11.72)	29.28 (11.18)	23.83 (11.28)	8.40**	9.41**	13.92**	0.586	0.485	0.622

** $p < 0.001$

than their pre-intervention score (Carson 2012). Similarly, the participants level of depression [t (156) = 8.20, $p < 0.01$, $d = 0.65$], anxiety [t (156) = 6.92, $p < 0.01$, $d = 0.50$], and stress [t (156) = 5.78, $p < 0.01$, $d = 0.39$] declined significantly. In terms of effect size, only depression ($d = 0.65$) and anxiety ($d = 0.50$) were found to exceed Cohen's (1988) convention for a medium effect (0.50), whilst stress had an effect size ($d = 0.39$) that fell within Cohen's (1988) parameters for a small effect (0.20).

When analysing the post-intervention and follow-up scores ($T_1 - T_2$), further significant decrement can be seen in the participants PIUQ scores [t (156) = 14.24, $p < 0.01$, $d = 0.84$], implying that not only was PIU symptom maintained, but further declined. The effect size for the PIUQ ($d = 0.84$) fell within the parameters for a large effect (0.80) (Cohen 1988). With this effect size, approximately 80% of the participant's follow-up scores will be below the mean of the post-intervention scores, 50% of the two sets of scores will overlap, and there is a 76% chance that a participant's follow-up scores will be lower than their post-intervention score. Participant's reported additional decline in depression [t (156) = 6.93, $p < 0.01$, $d = 0.41$], anxiety [t (156) = 7.60, $p < 0.01$, $d = 0.48$], and stress [t (156) = 8.62, $p < 0.01$, $d = 0.50$]. With the exception of stress, which had an effect size ($d = 0.50$) that can be considered as medium in effect, depression ($d = 0.41$) and anxiety ($d = 0.48$) were within the small to medium effect size range (Cohen 1988).

The comparison of scores from the pre-intervention and follow-up stage ($T_0 - T_2$) revealed that participants reported a further decrement in their PIUQ scores [t (156) = 20.28, $p < 0.01$, $d = 1.86$], indicating a marked improvement in their Internet use. The effect size for this analysis ($d = 1.86$) was found to exceed Cohen's (1988) convention for a large effect (0.80) and Sawilowsky's (2009) convention for a very large effect. With this effect size, approximately 97% of the participant's follow-up scores will be below the mean of the pre-intervention scores, 22% of the two sets of scores will overlap, and there is a 91% chance that a participant's follow-up scores will be lower than their pre-intervention score. Similarly, the participants felt less depressed [t (156) = 11.04, $p < 0.01$, $d = 1.00$], anxious [t (156) = 10.64, $p < 0.01$, $d = 0.94$], and stress [t (156) = 9.56, $p < 0.01$, $d = 0.83$]. The effect sizes for these analyses ($d = 1.00$, $d = 0.94$, $d = 0.83$) were found to exceed Cohen's (1988) convention for a large effect (0.80). After reviewing pre-intervention and follow-up difference, it is evident that the participants' SIAS scores significantly declined [t (156) = 13.92, $p < 0.01$, $d = 0.62$] as well. Unlike the other variables analysis, the effect size of this analysis ($d = 0.62$) can be considered to slightly exceed Cohen's (1988) convention for a medium effect (0.50).

Overall, the results suggest that majority of the participants showed improvement after the eight weekly sessions of PIP-IU-Y and continued symptom maintenance at the 1 month follow-up. At 8 weeks, the participants were able to refrain from PIU, and their ability to communicate with others in a social situation improved. Notably, the further improvement observed during the follow-up assessment indicated that the participants were able to differentiate between healthy and unhealthy or excessive Internet use. These results suggest that the participants were able to limit their Internet use and develop new social relationships over time following therapy.

In other words, the presenting symptoms of PIU as measured by the PIUQ, DASS, and SIAS can be seen to have been remedied by the PIP-IU-Y and outcomes examining signs of healthy Internet use post-intervention were maintained once intervention was completed.

Discussion and Conclusions

In this study, a total of 157 participants were evaluated on the PIUQ, DASS, and SIAS to assess the efficacy of the PIP-IU-Y, a uniquely designed model to treat PIU. Demographically, the participants were mostly females, aged between 13 and 18 years, and of various ethnicities. The same measures were used to assess the outcomes at the end of the 8 weeks of PIP-IU-Y, and again 1 month later. The results showed that an overwhelming majority of the participants were able to manage symptoms of PIU as measured on the PIUQ, DASS, and SIAS.

Unlike previous treatment models, the PIP-IU-Y focuses on preventing, rather than treating, PIU in adults. Forestalling the development of Internet addiction is important given that studies indicate that co-morbid symptoms of PIU are expected to worsen with age, interfering with an individual's quality of life and interpersonal relations with others (Cheng and Li 2014; Odaci and Kalkan 2010). As the results indicate, symptom improvement is possible in adolescents, and can be sustained over a time period.

Various researchers (Safran and Muran 2000; Gilbert and Leahy 2007; Wills 2008) have recognized the strong imperative of humans to relate to each other, and how adolescents perceive online world as a platform for interpersonal relationship as compare to the real world. CBT intervention programme for Internet addiction have been said to rekindle offline relationships slowly overtime, and optimum result in later part of therapy process as it is a complex issue (Young 2007; Du et al. 2010). By expanding offline social contacts, various psychosocial symptoms that are related to Internet addiction experience have reduced for instance social insecurity (Van Rooij et al. 2012; Wölfling et al. 2014). Also, collaborative sessions involving family and teacher support have reported to increase the success rate and prevent relapse. (King et al. 2010).

Implication and Future Research

This study has provided empirical evidence of the efficacy of the PIP-IU-Y, and assisted in the development of empirically-based intervention plans that would be suitable for the participants' needs. By doing so, it ensures that the successful treatment not only addresses the PIU behaviour but also help the adolescents reduce social anxiety and increase social interaction so as to reduce excessive Internet use as a means of coping with life's problems.

Further research should explore treatment differences among the various subtypes of PIU in order to see if treatment differences exist. One such subtype is online gaming, which is prevalent among adolescents and has negative consequences similar to those experienced by the participants in this study (Kuss

2013; Kuss and Griffiths 2012). Another would be online pornography, with research suggesting that adolescents exposed to sexually explicit material would subsequently engage in a variety of sexual behaviours that may be considered risky and problematic (Braun-Courville and Rojas 2009; Brown et al. 2009).

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Compliance with Ethical Standards

Conflict of interest The authors declare that they have no conflict of interest.

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